

## ABSTRACT

A method of producing a semiconductor device  
5 wherein an already formed opening portion inner wall of  
an organic based interlayer insulation film is prevented  
from changing in quality or corroding when performing  
etching on other organic material. The production method  
includes a step of depositing organic based interlayer  
10 insulation films (4, 6), a step of forming an opening on  
the organic based interlayer insulation films (4, 6), and  
a step of silylating a wall surface portion of the  
organic based interlayer insulation films (4, 6) exposed  
in the opening portion for reforming (forming reformed  
15 layers (4a, 6a) by silylation). A more preferable  
production method further includes a step of forming  
protective layers (4b, 6b) including an inorganic based  
insulation material on a surface of the silylated opening  
portion wall surface.